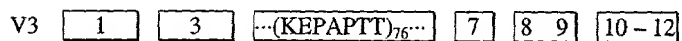
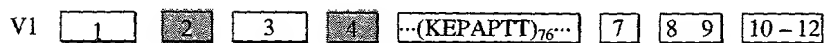


Fig. 1A



Somatomedin B-like Domain



Heparin Sulfate Binding Domain



Exon 6 Boundary Lubrication Domain



Hemopexin-like Repeats

Fig. 1B

Lubricin/MSF Isoform	Articular Chondrocytes			Synovial Fibroblasts			Predicted Molecular Weight
	Exon 2	Exon 4	Exon 5	Exon 2	Exon 4	Exon 5	
V0	+	+	+	+	+	+	151.096 kDa
V1	+	+	-	+	+	-	146.327 kDa
V2	+	-	-	+	-	-	140.894 kDa
V3	-	-	-	-	-	-	135.207 kDa

Parameter	Value	Unit
Temperature	25.0	°C
Pressure	1.0	atm
Humidity	50.0	%
Light intensity	100.0	μmol photons m ⁻² s ⁻¹
CO ₂ concentration	400.0	ppm
Water potential	-0.1	MPa
Root length	10.0	cm
Stomatal conductance	0.1	mol m ⁻² s ⁻¹
Photosynthetic rate	1.0	μmol CO ₂ m ⁻² s ⁻¹
Transpiration rate	0.5	mmol H ₂ O m ⁻² s ⁻¹
Chlorophyll content	1.0	mg g ⁻¹
Protein content	1.0	mg g ⁻¹
Carbohydrate content	1.0	mg g ⁻¹
Antioxidant activity	1.0	μg min ⁻¹ g ⁻¹
Gene expression	1.0	fold
Cell wall thickness	1.0	μm
Membrane integrity	1.0	μS cm ⁻¹
Enzyme activity	1.0	μmol min ⁻¹ g ⁻¹
Signal transduction	1.0	fold
Metabolic flux	1.0	μmol min ⁻¹ g ⁻¹
Cellular respiration	1.0	μmol O ₂ m ⁻² s ⁻¹
Photosynthesis	1.0	μmol CO ₂ m ⁻² s ⁻¹
Transpiration	1.0	mmol H ₂ O m ⁻² s ⁻¹
Stomatal conductance	1.0	mol m ⁻² s ⁻¹
Chlorophyll fluorescence	1.0	fold
Protein synthesis	1.0	fold
Carbohydrate synthesis	1.0	fold
Antioxidant synthesis	1.0	fold
Gene expression	1.0	fold
Cell wall synthesis	1.0	fold
Membrane synthesis	1.0	fold
Enzyme synthesis	1.0	fold
Signal transduction	1.0	fold
Metabolic flux	1.0	fold
Cellular respiration	1.0	fold
Photosynthesis	1.0	fold
Transpiration	1.0	fold
Stomatal conductance	1.0	fold
Chlorophyll fluorescence	1.0	fold
Protein synthesis	1.0	fold
Carbohydrate synthesis	1.0	fold
Antioxidant synthesis	1.0	fold
Gene expression	1.0	fold
Cell wall synthesis	1.0	fold
Membrane synthesis	1.0	fold
Enzyme synthesis	1.0	fold
Signal transduction	1.0	fold
Metabolic flux	1.0	fold
Cellular respiration	1.0	fold
Photosynthesis	1.0	fold
Transpiration	1.0	fold
Stomatal conductance	1.0	fold
Chlorophyll fluorescence	1.0	fold
Protein synthesis	1.0	fold
Carbohydrate synthesis	1.0	fold
Antioxidant synthesis	1.0	fold
Gene expression	1.0	fold
Cell wall synthesis	1.0	fold
Membrane synthesis	1.0	fold
Enzyme synthesis	1.0	fold
Signal transduction	1.0	fold
Metabolic flux	1.0	fold
Cellular respiration	1.0	fold
Photosynthesis	1.0	fold
Transpiration	1.0	fold
Stomatal conductance	1.0	fold
Chlorophyll fluorescence	1.0	fold
Protein synthesis	1.0	fold
Carbohydrate synthesis	1.0	fold
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Photosynthesis	1.0	fold
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Metabolic flux	1.0	fold
Cellular respiration	1.0	fold
Photosynthesis	1.0	fold
Transpiration	1.0	fold
Stomatal conductance	1.0	fold
Chlorophyll fluorescence	1.0	fold
Protein synthesis	1.0	fold
Carbohydrate synthesis	1.0	fold
Antioxidant synthesis	1.0	fold
Gene expression	1.0	fold
Cell wall synthesis	1.0	fold
Membrane synthesis	1.0	fold
Enzyme synthesis	1.0	fold
Signal transduction	1.0	fold
Metabolic flux	1.0	

V1 ATA ACA GAA [GAA ... AAA] GTA AAA GAT AAC

Diagram of exon 4 showing the positions of I¹⁵⁴, T¹⁵⁵, and E¹⁵⁶.

exon 6
 V²⁰⁰ K D N²⁰³

V2 TGT GCA GAA [GTG AAA] GTA AAA GAT AAC

exon 3
C¹⁰⁴ A¹⁰⁵ E¹⁰⁶

exon 6
V²⁰⁰ K D N²⁰³

V3 TCA TCT CAA [GAT ... GCG] GAG ... GAA [GTG ... AAA] GTA AAA GAT AAC

$$\begin{array}{c} \text{exon 1} \\ \boxed{S^{23} \quad S^{24} \quad Q^{25}} \end{array}$$

exon 3
E⁶⁷ ... E¹⁰⁶

V^{200} K D N^{203}